# Using Environmental Management Systems as a Tool to Address Compliance Requirements at the Local Government Level

***Presented by***

**Richard Rasmussen,** Director, Small Business Assistance Program, Virginia Department of Environmental Quality

**Craig Ruberti**, Project Manager, Global Environment & Technology Foundation

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U.S. Environmental Protection Agency

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## Disclaimer

# U. S. EPA National Compliance Assistance Providers Forum
# San Antonio, Texas
# December 4-6, 2002

"Providing Compliance Assistance to Local Governments through Environmental Management Systems"

# U. S. EPA National Compliance Assistance Providers Forum San Antonio, Texas December 4-6, 2002

Harry E. Gregori, Jr. AICP

Assistant to the Director

Virginia Department of Environmental Quality

# EMS Tools – An Overview

EMS Programs:

Create a culture of environmental awareness

- Serve as a new standard for your constituents and surrounding communities
- Promote compliance with an array of regulatory programs

# EMS Tools – An Overview

EMS Programs:

Reduce the generation of wastes

- Encourage proactive property management tactics
- Promote “smart growth” in your community

# Virginia's Environmental Excellence Program

# VEEP Overview

- Voluntary
- Focused on environmental management systems, pollution prevention and moving "beyond compliance"
- Rewards top performers ($E^3$) and motivates others just beginning ($E^2$)
- Open to <u>all</u> facilities with environmental impacts
- No separate legislation or regulations

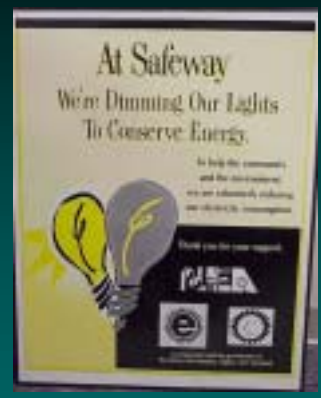
# Goals of VEEP

- Promote EMS & P2
- Promote Virginia as a leader
- Improve environmental performance
- Promote improved environmental quality
- Seek broad participation
- Provide recognition and incentives for participation and leadership
- Ensure that program is long-lived

# Benefits of Environmental Management Systems & P2

- Improved compliance
- Enhanced public image
- Better trained employees
- Improved environmental performance
- Increased efficiency & reduced costs
- Increased employee involvement/morale

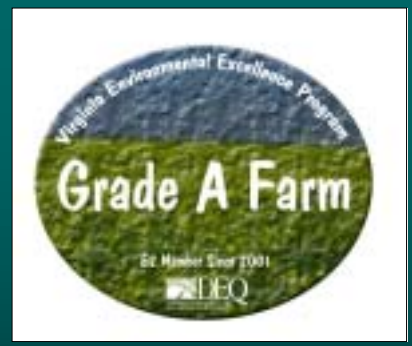
# E2 Participation




- **Metalpro**
- **Safeway (41 stores)**
- **Graham White Manufacturing**
- **Fort AP Hill**
- **Luck Stone  (16 facilities)**
- **USMC Advanced Amphibious Assault Vehicle Program**
- **SPSA (18 facilities)**
- **Bath County**
- **Michelin North America**
- **Litton PolyScientific**
- **City of Manassas (2 departments)**
- **Norfolk Naval Shipyard**

# Other Potential Participants

- Marinas
- Local & state governments
- Farms
- DOD facilities
- High School

# E3 Participation

- **Lockheed Martin**
- **Canon Virginia**
- **Siemens Automotive**
- **DuPont Spruance**
- **PolyOne Engineered Films Group**
- **TetraPak Tubex**
- **BAE Systems**
- **Brown & Williamson Tobacco**
- **Nestle USA**
- **City of Manassas**

# VEEP Implementation Status

- MOA between EPA Region III and DEQ signed July 2000
  - **ECOS/State Innovations Agreement**
  - **Defines roles & responsibilities**
- Coordination with EPA's National Environmental Performance Track Program
  - **Co-promotion**
  - **Incentives project**
  - **Reciprocity agreement**

# Local Government
# A Case Study

# Virginia EMS and Compliance

- City of Roanoke – RCRA Felony conviction [January 12, 2000]
- Roanoke/Virginia Tech Training Program [2001- 2002]
  - 100 units of local government
  - Huggins, Faulkner & Flynn Inc Consultants

# Virginia EMS Partnership

- **Virginia Department of Environmental Quality** (Environmental Excellence Program)
- **U. S. Environmental Protection Agency** (Performance Track)
- **Virginia Polytechnical Institute and State University (VPI&SU)** – Center for Organizational and Technological Advancement (COTA) – EPA designated EMS Resource Center

# Virginia EMS and Compliance

- Follow-up EMS development program [COTA Training]
  - 10 local governments (2002)
  - 10 local governments (2003)

# What Have We Learned?

- **Interviews with local government staff involved their response to three questions [Fall 2002]**
  1. **Identify the areas of operations that you examined as part of your EMS.**
  2. **What compliance issues did you identify as a result of the assessment?**
  3. **What did you do for each issue in response to or correct/improve the compliance issue?**

# EMS Preliminary Information for Conclusions

- Answers to question 1 (Areas Assessed) is based on discussion with approximately 20 local governments during 2001 and 2002
- Answers to question 2 (Significant Issues) and question 3 (Corrective Actions) are based on responses from less than 5 units of local government where work has been completed and implemented.

(Local government units include counties, cities, and towns)

# EMS Preliminary Information for Conclusions

- Answers to question 2 (Significant Issues) and 3 (Corrective Actions) based on responses less than 5 units of local government where work has been completed and implemented.
- Local government units include counties, cities, and towns

# EMS Compliance Assessment

- **1. Identify the areas of operations that you examined as part of your EMS.** (examples: wastewater treatment plant, maintenance shops/areas, storage facilities).

# Areas Assessed

- City Garage Facilities;
- Vehicle Service Centers;
- Public Utilities Operations Department;
- Landfill;

# Areas Assessed

- Traffic Engineering;
- Parks;
- Property Management; and
- Radio Shop
- Wastewater Treatment Plant

# EMS Significant Issues

- **2. What compliance issues did you identify as a result of the assessment?** (examples need: better solvent management, better record keeping, improved equipment or structure conditions.)

# EMS Significant Issues

- Need **Materials Management** procedure
- Need better drum **labeling**
- **Drains** tied to storm water
- Need to **identify pertinent regulations** for operations
- Need **environmental awareness training**

# EMS Significant Issues

- Need **written SOPs** addressing environmental & safety aspects
- **Stored** too many used tires on a single site
- Not properly covered for **financial responsibility** for UST's

# EMS Significant Issues

- Not properly **notifying the correct agencies** of demolition activity
- Not properly handling empty **55 gallon drums**
- Lacked proper **spill containment** on many vehicles.

# EMS Corrective Actions

3. **What did you do for each issue in response to, or to correct/improve the compliance issue?**

[Conduct training; purchase equipment; develop SOP; define accountability]

# EMS Corrective Actions

- **Writing procedures** for drum handling and materials management
- Getting **estimates for correcting** drain issue in garage

# EMS Corrective Actions

- **Identified all legal documents and regulations** which apply to garage operations and obtained copies
- Developing **Awareness video and training** with local training company

# EMS Corrective Actions

- Personnel are contributing to the writing of **SOPs** for their operations

# EMS Corrective Actions

**Purchased a tire splitter** for $10,000 that allows proper disposal of used tires in local landfill.

- This resulted in decrease in direct annual operating costs of $12,000 and an estimated $10,000 in soft costs (drive time, equipment wear and tear, decreased liability)

# EMS Corrective Actions

- Purchased insurance that properly covered UST **financial responsibility.**
- This did not result in a direct savings, but will cover the cost in the event of an accidental petroleum spill.

# EMS Corrective Actions

- Reviewed current emergency **notification procedures** and made the appropriate changes. This had no impact on operational costs.

# EMS Corrective Action

- Immediately developed a procedure for **handling empty drums**.
- This procedure eliminates the possibility of having clean drums contaminated resulting in the need to handle drums as if content unknown. Estimate that this procedure will save $1,000 per year in disposal cost.

# EMS Corrective Action

- Developed a plan to strategically place **spill containment kits** on vehicles with a high probability of spills.
- Determined which **supervisory level staff** could best respond to incidents on the streets and placed spill kits on those vehicles.

# EMS Corrective Action

- Spill kits cost $7,400 and is expected to save approximately $5,000 per year in clean-up cost.
- The estimated savings is less than the cost of the needed equipment; however, keep in mind the savings are estimated on routine activity and do not take in consideration a major incident.

# EMS Conclusions

- Preliminary Results Show that Organized EMS process leads to results
- Leadership support leads to results
- Specific compliance areas identified and addressed
- Training/SOPs key tools for permanent improvement

# EMS Conclusions

- Liability potential reduced
- Saving in some cases exceeded costs
- EMS institutionalizes process

# EMS Conclusions

- Improved performance allows compliance and enforcement agencies to redirect resources to other areas in need of attention.

# Recommendations

- Federal and State support needed:
  - Compliance assistance/training
  - Non punitive inspections
  - Regulatory incentives (e.g. longer storage of hazardous waste – reduces costs)

# Recommendations

- Federal and State support needed:
  - Funding to assist local governments
  - Pass along findings from EX Order 13148 (EMS) to local governments

# Recommendations

- Fund and use EMS Resource Centers [ e.g.Virginia Tech (VPI&SU)/COTA] fully to assist local, state, and federal government operational units.

# Recommendations

- Link infrastructure improvements to homeland defense (e.g. similar to water supply assessments)
  - Emergency response units:
    - Police, fire, hazardous materials response and local emergency response planning

# Further Information

- Harry E. Gregori, Jr.  AICP
  Assistant to the Director
  Virginia Department of Environmental Quality
  629 East Main Street
  Richmond, Virginia 23219
- Phone 804-698-4374

# Further Information

E-mail:

hegregori@deq.state.va.us

Small Business Assistance Program

rgrasmussen@deq.state.va.us

Website: www.deq.state.va.us

www.deq.state.va.us/osba/smallbiz.htm

# Fostering EMS in the Public Sector: the PEER Center

Craig Ruberti

Global Environment & Technology Foundation

National Compliance Assistance Providers Forum

December 4, 2002

# Introducing the PEER Center

- A central source of free information and resources on environmental management systems (EMS)
- Specifically designed for public entities
- Dynamic and inclusive

# PEER Center's Goals

- Increase awareness of EMS benefits
- Demystify elements of EMS
- Increase EMS implementation
- Facilitate peer-to-peer exchange

# More PEER Center Goals

- **Build regional EMS competence through Local Resource Centers**
- **Maintain a robust central clearinghouse: www.peercenter.net**
- **Increase information transfer**

# PEER Provides:

- National database
- EMS training and technical assistance
- Field-tested tools and sample documentation
- Implementation guidance
- Mentoring
- Real-time best practices and lessons learned
- Local Resource Centers

# Local Resource Centers

## Building local EMS expertise:

- To provide local expertise on EMS development and implementation
- To promote EMS awareness and understanding
- To capture data for central clearinghouse
- Up to 5 centers to be developed over next 2 years
- To be housed in existing not-for-profit institutions

*Welcome to*

# The PEER Center

PEER center

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- Calendar of Events
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**Public Entity Environmental Management System Resource Center**

Welcome to the PEER Center -- your one-stop shop for EMS information and resources.

Cities, states and federal entities use EMSs for cheaper, faster, better and greener management of their environmental issues. The PEER Center provides EMS guidance, tools, and training and links you to real-life:

- mentors
- technical assistance, and
- problem-solving strategies.

**Find Public Organizations with an EMS in Your State:**

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RESOURCE SAVER

PEER center

# How to Implement an EMS






EPA

The information and guidance provided in this section is structured to address the needs and issues that a public entity might encounter as they prepare for, develop and implement an EMS*. The material is based on the experiences of 23 participants involved in the two U.S. Environmental Protection Agency EMS Initiatives for Government Entities.

From start to finish, a two-year timeframe is suggested for the EMS implementation process. However, the implementation process can be shortened or extended based upon your organizational culture and needs. A four-phased implementation process has proven successful and is recommended for manageable implementation of the EMS elements/requirements. The field-tested guidance, implementation tools, and sample documentation found here are based on the lessons learned, benefits, barriers and keys to success of the 23 participants. They will aid you in your own EMS implementation process and help you streamline your efforts to develop a successful EMS.

- Getting Ready - Phase I
- Plan - Phase II
- Do - Phase III
- Check & Act - Phase IV
- Sample Documentation
- Implementation Materials

*The EMS requirements discussed throughout the four sections above are based on the ISO 14001 standard (1996).

# How to Implement an EMS

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## Plan – Phase II

- Developing the Environmental Policy
- Identifying Legal and Other Requirements
- Defining Your Environmental Footprint (Environmental Aspects & Impacts)
- Identifying the Environmental Hotspots (Significance Criteria)




Plan - Phase II

## Defining Your Environmental Footprint (Environmental Aspects & Impacts)

The process of identifying environmental aspects and impacts is the most technically challenging task in creating an EMS. The task requires an analysis of each activity, product or service conducted or provided by your organization. The inventory of aspects helps an organization visualize its environmental footprint.

**Environmental Aspect** - An element of an organization's activities, products or services that can ***interact*** with the environment.

Examples:

- Air Emissions (CO & NOx)
- Energy Usage (Gas & Diesel)
- Used Oil Recycling
- Solid Waste Generation

The key to this process is to only Identify the environmental aspects that your organization:

- Can *Control*, and
- Over Which it Can *Have An Influence*

Your organization is not expected to manage issues outside your sphere of influence. So your organization does not need to address how your energy provider manages its hazardous waste.

**Environmental Impact** - any c*hange* to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services

Examples

- Degradation of Air Quality
- Reduction in Natural Resources
- Conservation of Natural Resources
- Reduction in Landfill Space

*Identification Process*

- Identify the Main Activities, Products and Services within the "Fenceline"
  - Process flow diagrams (inputs, processes, outputs) are useful and provide a ready made list of aspects
- List the Environmental Aspects
  - Are They Under Your ***Control*** and ***Influence***?
- Identify the Associated Impacts

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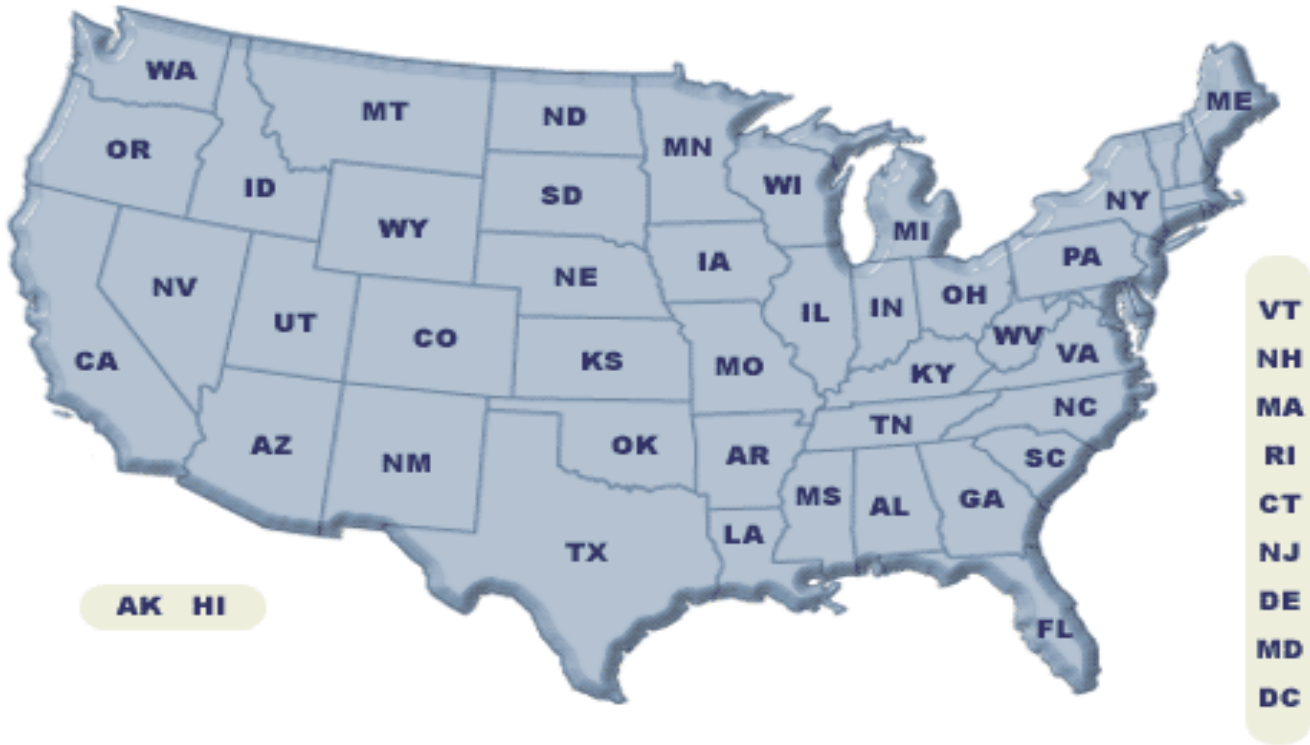


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**International Experiences and Resources**

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## Oregon 

### EMS Organizations

City of Eugene

Tri-County Metropolitan Transporation District of Oregon

### State EMS Information

**Green Permits and the Environmental Management Systems Incentives Project**
State EMS Information
An update describing the 1997 Oregon Legislature's creation of Green Permits.

**Green Permits Brochure**
Brochure/Fact Sheet
A brochure that provides a summary of Oregon's Green Permits program.

**Press Release of Oregon's Green Permits**
Article
The Oregon Department of Environmental Quality (DEQ) seeks public comment beginning today on proposed Green Permits.

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## Tri-County Metropolitan Transporation District of Oregon

**Fenceline:**
Eight Maintenance Facilities.

**Contact:**
Kevin Considine
Tri-County Metropolitan Transporation District of Oregon
4012 SE 17th Ave. Portland
Portland, OR 97202
Phone: 503.962.5836
Fax: 503.962.5858
considin@trimet.org

**Case Study:** Download File

**Website:** www.trimet.org

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# You're Invited to…

- Share case studies and lessons learned
- Contribute to the databases
- Mentor public entities
- Partner with Local Resource Centers

**Get involved- we need you!**

# Contact Us…

**Visit the website at**

www.peercenter.net

or contact:

**Craig Ruberti**

**Tel: 703-750-6401**

**cruberti@getf.org**